Patent
Attorney's Docket No. 010315-092

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
Kent Malmgren et al.	Group Art Unit: 1771
Application No.: 09/651,130	Examiner: Victor S. Chang
Filed: August 3, 2000	Confirmation No.: 1064
For: Absorbent Foam Material, a Method of Producing It and an Absorbent Structure Containing Said Foam Material	

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Kent Malmgren, hereby state as follows:

1. I am one of the inventors of the subject matter disclosed and claimed in the above-referenced patent application. My education is Master of Science in Chemical Engineering from The Royal Institute of Technology, Stockholm, Sweden, and I am employed by SCA since 1986. I have mainly been active in research work and my position is research leader in the fiber chemistry area.

2. I have reviewed and am familiar with U.S. Patent No. 6,261,679, issued July 17, 2001, to Kimberly-Clark Worldwide, Inc.

3. The liquid absorbent material as defined in the rejected claims comprises an open-cell polymeric foam material. This material is suitable for use as an absorbent structure in absorbent articles. The foam material of the liquid absorbent material has an absorption rate at wetting of at least 0.4 ml/s for a round sample having a 50 mm diameter, a liquid distribution capacity at an inclination of 30° of at least 15 g/g and a liquid storage capacity of at least 9% measured through centrifuge retention capacity, for synthetic urine test liquid.

4. As described in the present application, a foam is built of a continuous three-dimensional network or cellular structure of a solid or liquid phase, which surrounds a gaseous phase dispersed therein. The liquid absorbent materials as defined in the claims comprise an open-cell polymeric foam material which liquid absorbent materials may have multifunctional absorption properties with respect to liquid acquisition capacity, distribution capacity and storage capacity. Thus, the material may simultaneously fulfill the functions of a liquid acquisition layer, distribution layer and storage layer. *Specification, pages 4-5.*

5. As further described in the application, gel liquid refers to liquid held in pores smaller than 3 µm and capillary liquid refers to loosely bound liquid in pores larger than 3 µm and up to 500 µm. Gel liquid is the liquid that is held most firmly in the structure. *Specification, page 5.* The liquid storage capacity of the foam defined in the claims may be measured by centrifuge retention capacity (CRC), which is a measure of the capacity of the foam to firmly bind gel liquid in its solid phase by swelling the cell walls. *Specification, page 2, page 8.*

6. Upon information and belief, Chen et al., U.S. Patent No. 6,261,679, describes a fibrous material, wherein a foam forming material has been added to the fibrous material to keep the fibers apart and to create an expanded and highly porous fiber structure. The Chen et al. material is defined in embodiments as a "foam-reinforced fibrous network" wherein the components of the structuring composition or foam play a relatively minor structural role in the final absorbent material, once the fibers have been properly positioned and bound. *Column 1, line 50 – column 2, line 4.* In Chen et al., the fibers form the walls in the cellular structure, thus having an open-cell foam characteristic. *See, Figures 1 and 2.*

7. Figure 4 of Chen et al. depicts an embodiment based on Figure 2 of Chen et al. in which the foam that served to structure the fibers has not collapsed, but remains partly intact as a structural component of the absorbent fibrous structure, occupying a significant portion of the void space in the cells defined by the fibers in fibrous struts. As described in Chen et al., the cells defined by the foamable binder may have a diameter from about 0.02

mm to about 0.2 mm (20 to 200 μm). *Column 41, line 55 – column 42, line 38.*

8. Upon information and belief, the liquid absorbent materials as defined in the claims of the present application are substantially different than those disclosed by Chen et al. and have different properties. The liquid storage capacity measured through centrifuge retention capacity will be significantly lower in the fiber structure disclosed by Chen et al. since the CRC method mainly measures the so-called "gel liquid", which is liquid that is firmly bound in pores smaller than 3 μm. A fibrous network of the kind shown in Chen et al., for example in Figure 2, will have a considerably lower CRC value than claimed since Chen et al. does not disclose that a part of the cells of the fiber structure described would have a size small enough to give a liquid storage capacity as claimed. The pore size of the material disclosed in Chen et al. would not provide the claimed liquid storage capacity as there is no description of the material in Chen et al. having pores of a size in which gel liquid would be bound such that the claimed liquid storage capacity may be achieved. Thus, the material of Chen et al. is different from the liquid absorbent material defined in the claims of the present application.

9. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 81 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Kent Malmgren Date: 2004-05-19
Kent Malmgren